

## REMARKS

### **Status of the Claims**

Claims 1-3, 6-9, and 11-18 are pending in the application. Claims 1, 3, 6, 8, 13 and 16-18 stand rejected. The Examiner has indicated that claims 2, 7, 9, 11-12, and 14-15 contain allowable subject matter. Reconsideration and allowance of all of the pending claims are respectfully requested.

### **Claim Rejections - 35 U.S.C. §112, first paragraph**

Claims 3, 6, 8, and 16 are rejected under 35 U.S.C §112, first paragraph as not meeting the enablement requirement. The Examiner asserts that the scope of the terms "colloid stabilizing agent," "oil layer protective agent," and "black organo-electropositive gel" cannot be determined. Applicants respectfully traverse this rejection for the following reasons.

The MPEP makes clear:

As concerns the breadth of a claim relevant to enablement, the only relevant concern should be whether the scope of enablement provided to one skilled in the art by the disclosure is commensurate with the scope of protection sought by the claims. . . . Claims are not rejected as broader than the enabling disclosure under 35 U.S.C. 112 for noninclusion of limitations dealing with factors which must be presumed to be within the level of ordinary skill in the art; the claims need not recite such factors where one of ordinary skill in the art to whom the specification and claims are directed would consider them obvious.

MPEP §2164.08 (emphasis supplied).

Applicants respectfully submit that in the present case one of skill in the art would immediately understand and consider obvious the expressions: "colloid stabilizing agent," "oil

layer protective agent," and "black organo-electropositive gel." Accordingly, Applicants submit that this rejection must be withdrawn.

*Colloid stabilizing agent*

Applicants respectfully submit that the term: "colloid stabilizing agent" would be well understood by one of skill in the art. As discussed below, "stabilizing agents" are well known in the art and are commonly used in drilling fluid compositions. "Colloid stabilizing agents" are a type of stabilizing agent used in the present invention. One of skill in the art would immediately understand and consider obvious this expression as it is used in the present specification and claims. Applicants submit that this rejection must be withdrawn.

An electropositive drilling fluid comprises a mud-building agent, i.e. a specific clay, a high molecular weight polymer and the like. In order to ensure a homogeneous and stable suspension of the clay in the high molecular weight polymer, or a stable suspension of the clay in water after being homogeneously dispersed, a stabilizer is required. A colloid may be formed by dispersing the high molecular weight polymer in water, and homogeneously dispersing the clay in the polymer or in water. A method to prevent phase-separation of such a colloid is to add a stabilizer, which is called a colloid stabilizing agent.

The stabilizer performs two functions: one is to provide protection for the colloid by increasing the viscosity of the colloid, and the other is to form a double electrode layer on the surface of the clay particles so as to establish an electrostatic repulsion. The colloid stabilizing agent of the present application stabilizes the electropositive drilling fluid system by increasing the viscosity of the colloid.

Applicants therefore submit that one of skill in the art would understand and consider obvious the expression "colloid stabilizing agent" and this rejection must be withdrawn.

*Oil layer protective agent*

The expression "oil layer protective agent" would also be well understood by one of skill in the art. As discussed below, oil layer protective agents are also commonly used in drilling compositions. One of skill in the art would immediately recognize and consider obvious this term as it is used in the present specification and claims. Applicants respectfully submit that withdrawal of this rejection is required.

During well drilling the solid phase or filtrate of the drilling liquid may damage the drilled reservoir bed. In order to avoid this damage one or several treating agents capable of preventing the reservoir bed from damage need to be added into the drilling liquid. Such treating agents are known as oil layer protective agents. The oil layer protective agent protects the oil layer by a particle-bridging effect, or formation of a protective film on the surface of the rock. The oil layer protective agent used in the present invention protects the oil layer by a particle bridging effect.

Accordingly, Applicants submit that one of skill in the art would understand and consider obvious the expression "oil layer protective agent" and this rejection must be withdrawn.

*Black organo-electropositive gel*

The expression "black organo-electropositive gel" would also be well understood by one of skill in the art. As discussed below, black organo-electropositive gels are also well known and commonly used in drilling compositions. One of skill in the art would immediately recognize

and consider obvious this expression as it is used in the present specification and claims.

Applicants respectfully submit that withdrawal of this rejection is required.

A black organo-electropositive gel is a paraffin- and asphalt-containing colloid of laminar metal hydroxides. Since it shows a black color, it is commonly referred to as a black organo-electropositive gel. This expression is widely known and used in the industry. In addition to increasing the electropositivity of the drilling liquid, the gel also forms a layer of protective film on the surface of the rock so as to further stabilize the mud shale.

Accordingly, Applicants therefore submit that one of skill in the art would immediately understand and consider obvious the expression "black organo-electropositive gel," and this rejection must be withdrawn.

### **Claim Rejections - 35 U.S.C. §112, second paragraph**

Claim 7 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner asserts that the term "low" is imprecise. Applicants respectfully traverse this rejection for the following reasons.

The MPEP states in relevant part:

The examiner's focus during examination of claims for compliance with the requirement for definiteness of 35 U.S.C. 112, second paragraph, is whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available. When the examiner is satisfied that patentable subject matter is disclosed, and it is apparent to the examiner that the claims are directed to such patentable subject matter, he or she should allow claims which define the patentable subject matter with a reasonable degree of particularity and distinctness. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire.

Applicants respectfully submit that in the relevant industry, it is widely accepted that a cationic polymer having a low molecular weight in the art represents a polymer having a molecular weight of below about 5,000,000. One of skill in the art of drilling compositions would well understand this fact, and would therefore be fully apprised of the metes and bounds of claim 7. Applicants respectfully submit that, taken in the proper context, claim 7 meets the statutory requirement for precision and this rejection must therefore be withdrawn.

### **Claim Rejections - 35 U.S.C. §103(a)**

Claims 1, 13, 17 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Qu '627 (U.S. Publ. No. 2003/0019627). Applicants respectfully traverse this rejection for the following reasons.

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP §2143.03. Applicants respectfully submit that the prior art does not disclose or suggest all of the limitations of the present claims. The prior art does not disclose or suggest a cationic fluid loss additive as presently recited in claim 1. Accordingly, this rejection must be withdrawn.

Qu '627 describes a fracturing fluid comprising a surfactant and an aluminum salt. However, Qu '627 does not disclose or suggest a cationic fluid loss additive as recited in present claim 1. That is, the surfactant of Qu '627 affects the fluid loss by formation of micro-beads during emulsification. Accordingly, Qu '627 does not disclose or suggest the cationic fluid loss additive element as presently recited in claim 1. Applicants respectfully submit that all of the

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Amendment dated March 8, 2007  
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limitations of claim 1 are therefore not disclosed or suggested by Qu '627, and this rejection must be withdrawn.

### **Conclusion**

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mark J. Konieczny (Reg. No. 47,715) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: March 8, 2007

Respectfully submitted,

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